

CONNECT EACH GLOBAL REACH

SPECIFICATION VORMATIC ESL 3



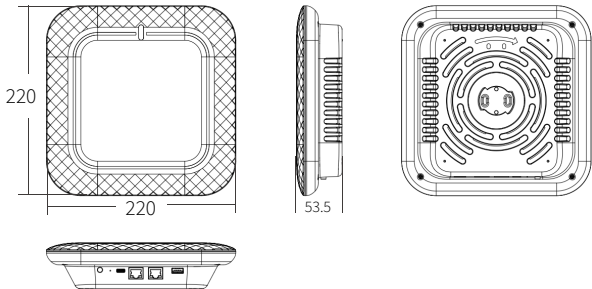
Brief Introduction

ESL 3

The ESL 3 is designed for the mid-to-high-end IoT market, serving enterprise users, smart parks, industrial automation, and other scenarios with high-performance, high-reliability IoT connectivity solutions. Equipped with a high-performance dual-core processor, the device supports edge computing for local data processing, reducing server load and improving overall system efficiency. It features a Gigabit Ethernet port and 2.4GHz/5GHz dual-band Wi-Fi bridging for flexible network deployment. The built-in multi-channel Bluetooth antennas enable concurrent management of a large number of Bluetooth devices, making it ideal for batch configuration and rapid data updates of electronic shelf labels. PoE cascading support reduces reliance on switches and lowers deployment costs. The integrated USB interface allows connection to a cellular network adapter for fast data upload over an LTE network, meeting real-time data transmission requirements for outdoor and unwired deployment environments.



● Appearance



● Product Dimensions

Highlight



High-performance Dual-core Processor



Gigabit Adaptive Ethernet Port



2.4GHz & 5GHz Dual-band Wi-Fi



10-channel Bluetooth Concurrent Connection



Optional Type-C / PoE Power Supply



PoE Cascading



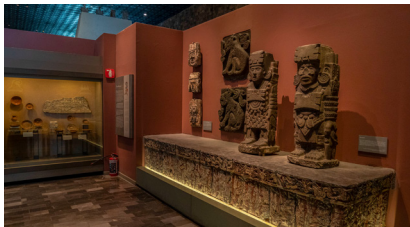
Supports USB Dongle or USB Flash Disk



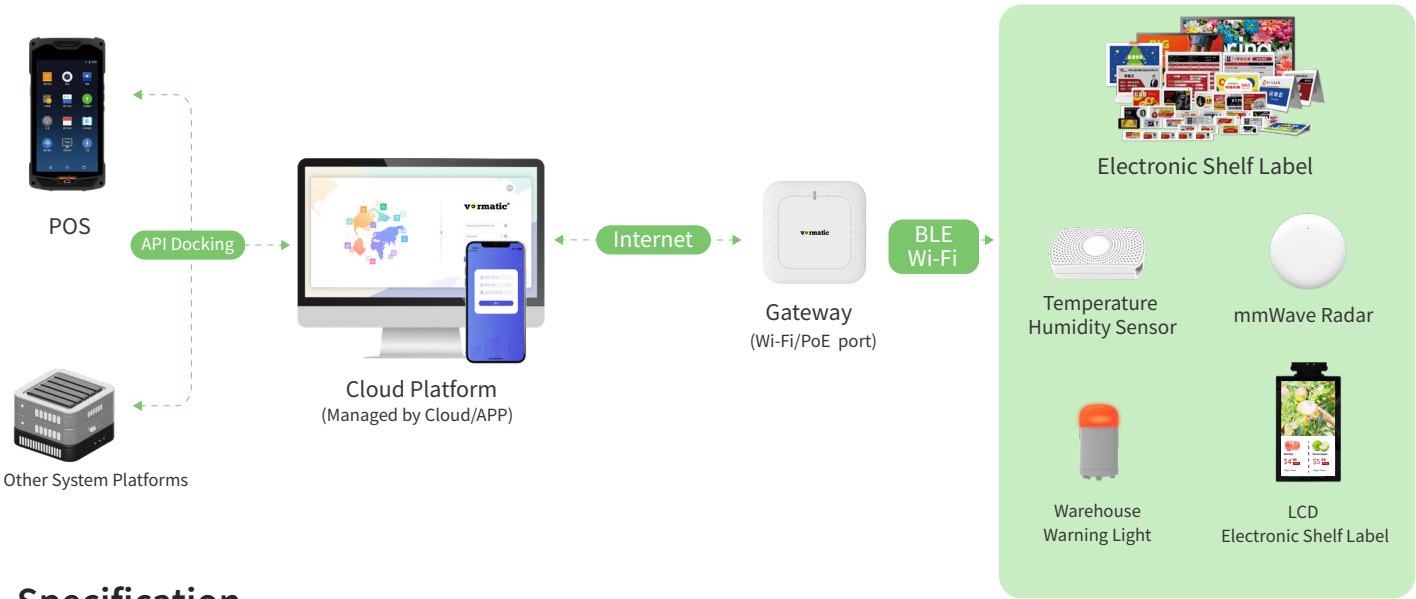
Adaptable to Complex Scenarios

Application Scope

Applicable to supermarkets, factories, warehouses, airports, exhibition centers, museums and scenic spots; widely used in electronic shelf label management, personnel control, asset inventory, environmental monitoring, indoor navigation, smart security and remote monitoring.



Logical Architecture



Specification

Structural Parameters

Dimensions	220*220*53.5 mm
Material	AC3100
Color	White
Weight	892.8 g(Including Bracket)
Buttons	Power Button *1; Reset Button *1
Ports	POE-IN/ WAN *1; POE-OUT/ LAN *1; TypeC *1; USB-A *1
Indicator Lights	RGB Light *1
Installation Method	Ceiling Mount, Wall Mount, Desktop Placement
Accessories	Mounting Base, Expansion Screws

Electrical Parameters

Item	Parameters	Notes
Main Controller	MT7981B	
Bluetooth Module	NRF52840*10	
Memory	DDR3 256MB ,Nand Flash 128MB	
Power Supply Mode	DC 12V / POE Type 4 802.3 at/bt	
Max Power Consumption	18W	Single Host Non-Cascading
PoE Input	Supports Type 4 802.3bt (91W MAX)	
PoE Output	Supports Type 4 802.3bt (71W MAX)	
RJ45 Port Speed	1Gbps	
Operating Temperature	-15~50°C	
Operating Humidity	5~95%RH Non-condensing	
RGB Light Effect	Boot Loading Process	Purple light flashing
	Boot Completed	Blue light always on
	Network Fault	Red light always on
	Network Normal	Green light always on
	Wi-Fi Firmware Upgrade	Green light flashing
	Brick Recovery Mode	White light always on
	Always Off	Power off; or light disabled by configuration

Radio Frequency Parameters

Wi-Fi Radio Frequency		
Item	Parameter	Notes
Wi-Fi Protocol Standard	MIMO IEEE 802.11 b/g/n/ac/ax	
Wi-Fi Frequency Band	2.4GHz/5GHz	
Wi-Fi Modulation Mode	BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM/DBPSK/DQPSK/CCK	
Channel Bandwidth	20M/40M/80M/160M/auto	
Wi-Fi Transmit Power	20dBm (MAX)	
Wi-Fi Receiver Sensitivity	-98dBm	
2.4G Wi-Fi	2.4G 2 x 2 MIMO 574Mbps	
5G Wi-Fi	5G 2 x 2 MIMO 2.4Gbps	
Number of Spatial Streams	4 x 4	
Overall Wireless Rate	≤2.975Gbps	
Network Protocol	HTTP(SSL / TLS) / MQTT(SSL / TLS) / TCP	
Wi-Fi Encryption	WEP WPA PSK , WPA2 PSK , WPA WPA2 PSK , WPA EAP , WPA2 EAP , WPA3 EAP , WPA3 SAE	
Bluetooth Radio Frequency		
Item	Parameter	Notes
Bluetooth Standard	BLE 5.0	
Bluetooth Frequency Band	2.4GHz, 40channels	2400~2483.5MHz
Bluetooth Receiver Sensitivity	-94dBm (1Mbps) / -91dBm (2Mbps)	
Bluetooth Reception Bandwidth	1Mbps / 2Mbps	
Bluetooth Transmit Power	18dBm	
Number of Received Broadcast Packets	400 pps	Single Channel Scanning Only
Encryption Method	AES-128 bits	
Brush Configuration Distance	Over 30 Meters in Open Area	Results vary for different slave devices